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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2004-SW-04-AD; Amendment 39-13812; AD 2004-20-07]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron Canada Model 222, 222B, 222U, and 230 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) for the specified Bell Helicopter Textron Canada (BHTC) model helicopters that requires certain inspections of the main rotor yoke (yoke) for a crack, fretting, or buffer deterioration. If a crack is found, the AD requires replacing the yoke with an airworthy yoke before further flight. If fretting or buffer deterioration are found, the AD requires further inspecting the main rotor hub assembly (hub assembly) and repairing or replacing any unairworthy parts. Also, the AD requires a torque inspection of the flapping bearing retaining nuts at specified intervals. This amendment is prompted by the discovery of a crack in a yoke. The actions specified by this AD are intended to prevent failure of the yoke and subsequent loss of control of the helicopter.

DATES: Effective November 9, 2004.

FOR FURTHER INFORMATION

CONTACT: Charles Harrison, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Safety Management Group, Fort Worth, Texas 76193-0110, telephone (817) 222-5128, fax (817) 222-5961.

SUPPLEMENTARY INFORMATION: A proposal to amend 14 CFR part 39 to include an AD for the specified model helicopters was published in the Federal Register on June 24, 2004 (69 FR 35273). That action proposed to require certain inspections of the yoke for a crack, fretting, or buffer deterioration and, if a crack is found, replacing the yoke with an airworthy yoke before further flight. If fretting or buffer deterioration are found, that action proposed further inspecting the hub assembly and repairing or replacing any unairworthy parts. Also, the AD proposed a torque inspection of the flapping bearing retaining nuts at specified intervals.

Transport Canada, the airworthiness authority for Canada, notified the FAA that an unsafe condition may exist on BHTC Model 222, 222B, 222U, and 230 helicopters. Transport Canada advises of a fatigue crack being found in a yoke in the area of the flapping bearing bushings.

BHTC has issued Alert Service Bulletin (ASB) Nos. 222-03-97 for the Model 222 and 222B helicopters, 222U-03-68 for the Model 222U helicopters, and 230-03-28 for the Model 230 helicopters, all dated September 23, 2003. The ASB's specify a recurring visual inspection of the yoke for a crack, fretting, or buffer deterioration in the four (4) areas around the flapping bearing attachment bushings. The ASB's also specify verifying the torque of the main rotor flapping bearing retaining bolts/nuts. Transport Canada classified these service bulletins as mandatory and issued AD No. CF-2003-27, dated November 17, 2003, to ensure the continued airworthiness of these helicopters in Canada.

These helicopter models are type certificated in Canada for operation in the United States under the provisions of 14 CFR

21.29 and the applicable bilateral agreement. Pursuant to the applicable bilateral agreement, Transport Canada has kept the FAA informed of the situation described above. The FAA has examined the findings of Transport Canada, reviewed all available information, and determined that AD action is necessary for products of these type designs that are certificated for operation in the United States.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

The FAA estimates that this AD will affect 105 helicopters of U.S. registry. The FAA also estimates that this AD will:

- Take ½ work hour to inspect the yoke every 25 hours time-in-service (TIS), assuming 8 inspections a year that would equal 4 work hours per year;
 - Take ½ work hour to inspect the flapping bearing retaining bolts torque every 50 hours TIS, assuming 4 inspections a year that would equal 2 work hours per year;
 - Take 4 work hours to remove, inspect, and replace the yoke if required.
 - The average labor rate is \$65 per work hour.
 - Required parts will cost about \$32,675.
- Based on these figures, we estimate the total cost impact of the AD on U.S. operators to be \$3,499,125, assuming all yokes are replaced near the end of the first year.

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule

does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-20-07 Bell Helicopter Textron

Canada: Amendment 39-13812. Docket No.
2004-SW-04-AD.

Applicability: The following helicopter
models, certificated in any category:

Model	Serial number (S/N)	With main rotor hub (hub) assembly part number installed
(1) 222	47006-47089	222-011-101-ALL or 222-012-101-ALL.
(2) 222B	47131-47156	222-011-101-ALL or 222-012-101-ALL.
(3) 222U	47501-47574	222-011-101-ALL or 222-012-101-ALL.
(4) 230	23001-23038	222-012-101-ALL.

Compliance: Required as indicated,
unless accomplished previously.

To prevent failure of the yoke and
subsequent loss of control of the helicopter,
accomplish the following:

(a) Within 50 hours time-in-service (TIS)
or by the next scheduled inspection for the hub

assembly, whichever occurs first, and
thereafter at intervals not to exceed 25 hours
TIS, using a 10X or higher magnifying glass,
visually inspect the main rotor yoke (yoke) for
a crack, fretting or buffer deterioration in the
four areas around the flapping bearing
attachment bushings as shown in the following
Figure 1 of this AD:

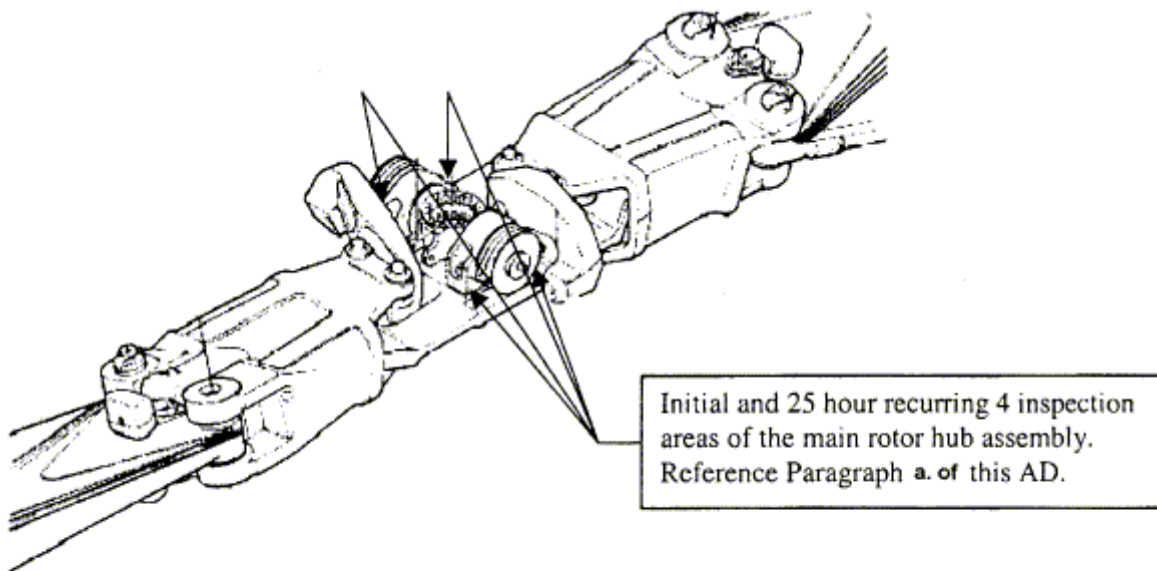


Figure 1. Main Rotor Hub Assembly

Note 1: Bell Helicopter Textron Alert Service Bulletin (ASB) Nos. 222-03-97 for the Model 222 and 222B, 222U-03-68 for the Model 222U, and 230-03-28 for the Model 230, all dated September 23, 2003, pertain to the subject of this AD.

(1) If a crack is found, before further flight, replace the yoke with an airworthy yoke.

(2) If fretting or buffer deterioration is found on the yoke in the areas shown in Figure

1 of this AD, before further flight, disassemble the hub assembly and further inspect the yoke with a 10X or higher magnifying glass in the four areas shown in Figures 2 and 3 of this AD.

(i) If a crack is found on any part, before further flight, replace the part with an airworthy part.

(ii) If fretting or buffer deterioration is found on any part, before further flight, repair any unairworthy part or replace the part with an airworthy part.

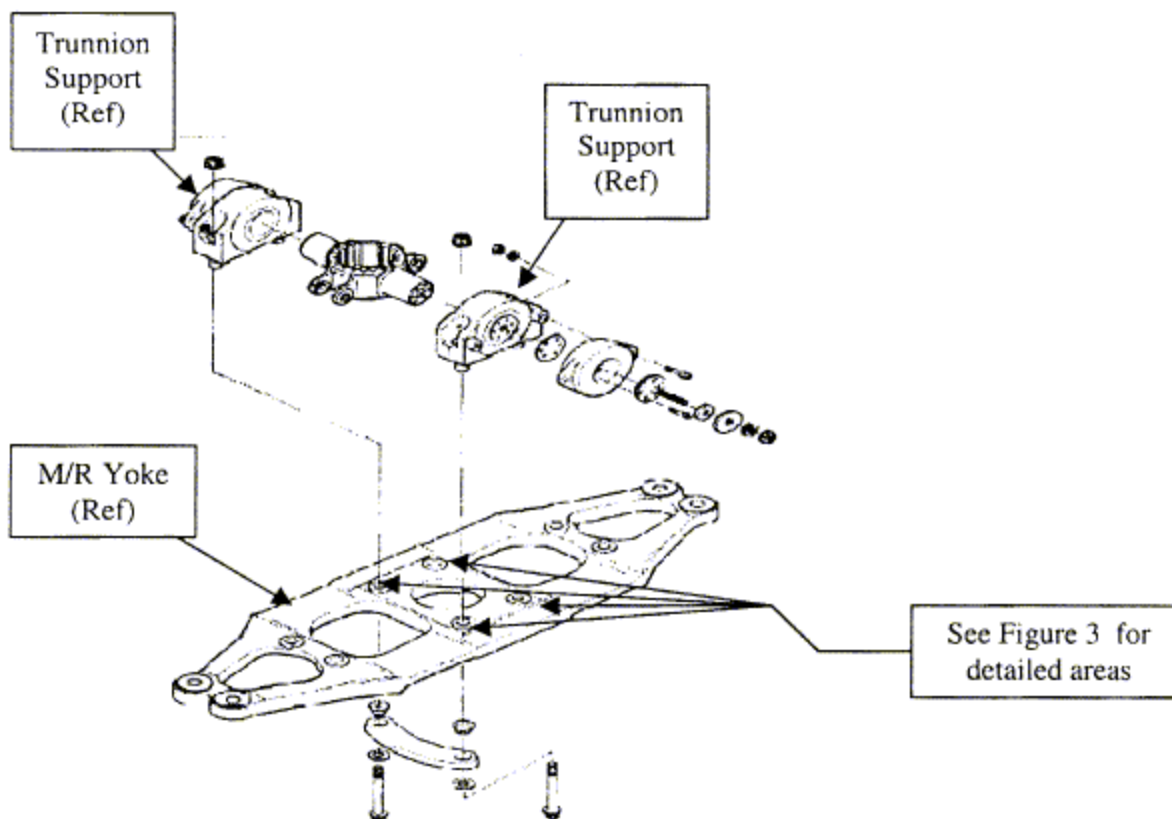


Figure 2. Main Rotor Yoke

Shown with trunnion supports removed.

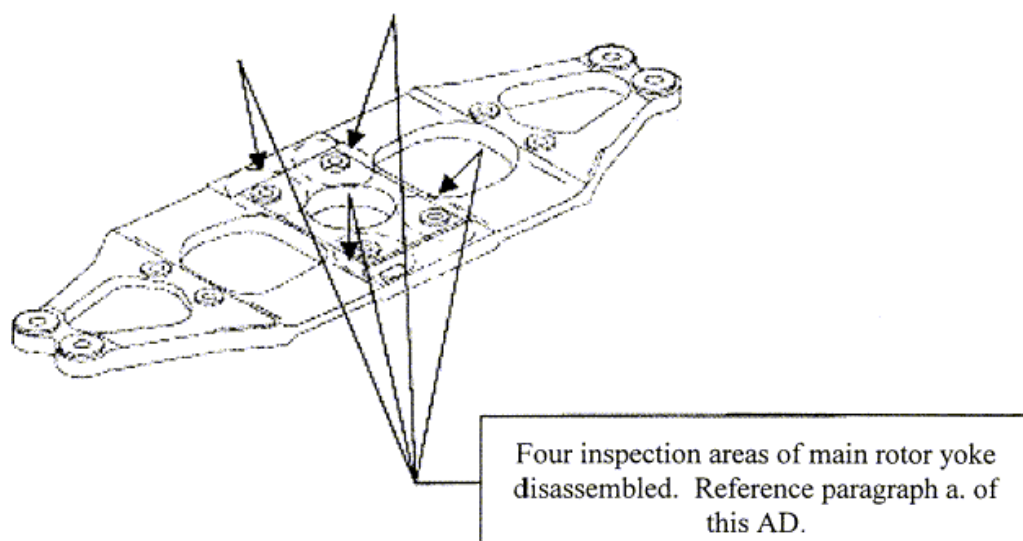


Figure 3. Main Rotor Yoke Inspection Areas

(b) Within 50 hours TIS or by the next scheduled inspection for each hub assembly, whichever occurs first, and thereafter at intervals not to exceed 50 hours TIS, determine the torque of the four main rotor flapping bearing retaining bolts or nuts. While holding the bolt head, apply 100 foot-pounds (135Nm) of torque to the nut in the tightening direction.

(1) If 100 foot-pounds (135Nm) of torque is reached without movement of the nut, before further flight, torque the nut to 125 foot-pounds.

(2) If any nut moves before reaching 100 foot-pounds (135Nm) of torque, before further flight, remove both flapping bearings from the hub assembly. Inspect the yoke, the bolt and nut, and the trunnion supports with a 10X or higher magnifying glass, for a crack, fretting, or buffer deterioration.

(i) If a crack is found on any part, before further flight, replace the part with an airworthy part.

(ii) If fretting or buffer deterioration is found on any part, before further flight, repair

any unairworthy part or replace the part with an airworthy part.

(c) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Safety Management Group, FAA, for information about previously approved alternative methods of compliance.

(d) This amendment becomes effective on November 9, 2004.

Note 2: The subject of this AD is addressed in Transport Canada (Canada) AD CF-2003-27, dated November 17, 2003.

Issued in Fort Worth, Texas, on
September 24, 2004.

Scott A. Horn,

Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.

[FR Doc. 04-22265 Filed 10-4-04; 8:45 am]

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